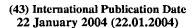


(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





PCT

(10) International Publication Number

(51) International Patent Classification7:

C21C 5/52

WO 2004/007776 A2

(21) International Application Number:

PCT/EP2003/007431

(22) International Filing Date:

9 July 2003 (09.07.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: MI2002A001526

11 July 2002 (11.07.2002)

- (71) Applicant (for all designated States except US): DANIELI & C. OFFICINE MECCANICHE S.P.A. [IT/IT]; Via Nazionale, 41, I-33042 Buttrio (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): VECCHIET, Fabio [IT/IT]; Via Trieste, 19, I-33059 Villa Vicentina (IT). PAVLICEVIC, Milorad [HR/IT]; Via Maniago, 4/C, I-33100 Udine (IT). POLONI, Alfredo [IT/IT]; Via G. Paolini, 29, I-34070 Fogliano Redipuglia (IT).
- (74) Agent: GERVASI, Gemma; Notarbartolo & Gervasi S.p.A., Corso di Porta Vittoria, 9, I-20122 Milan (IT).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

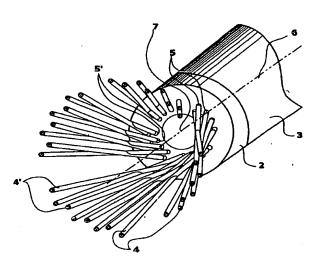
of inventorship (Rule 4.17(iv)) for US only

Published:

without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: INJECTOR FOR METAL MELTING FURNACES



(57) Abstract: The following invention relates to an injector-burner for applications in the metalwork field, in particular for use in electric arc furnace melting processes having a frontal head with two series of holes arranged in two concentric crowns, the inner crown of holes used to feed fuel and the outer crown used to supply a supporter of combustion. A central hole is also provided, which is fitted with an oxygen injection nozzle. The holes of the two crowns are divided into groups separated by circular sectors without holes, in order to create a number of flames and are inclined in such a way as to give the gases supplied, and consequentially the flame generated, a rotation around the injector-burner axis. By regulating the flow-rates of the fuel and the supporter of combustion supplied to the various holes, the injector-burner is able to regulate the flame shape in burner mode and also in injection mode, thus guaranteeing optimum performance in all modes.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.